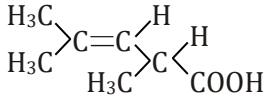
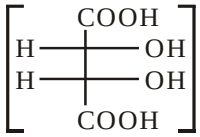
Exercise - I (Conceptual Questions) Build Up Your Understanding

OPTICAL ISOMERISM

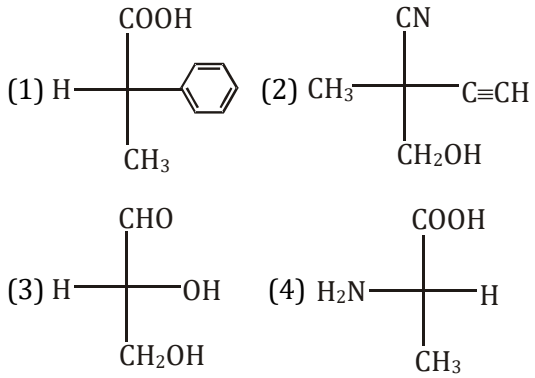
1.  Exhibits :-

(1) Tautomerism
(2) Optical isomerism
(3) Geometrical isomerism
(4) Geometrical and optical isomerism

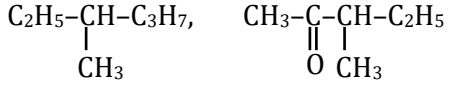
2. Meso–tartaric acid  is optically inactive due to the presence of :-

(1) Molecular symmetry
(2) Molecular asymmetry
(3) External compensation
(4) Two asymmetric carbon atoms

3. Identify R configuration :



4. Among the following structure I to III

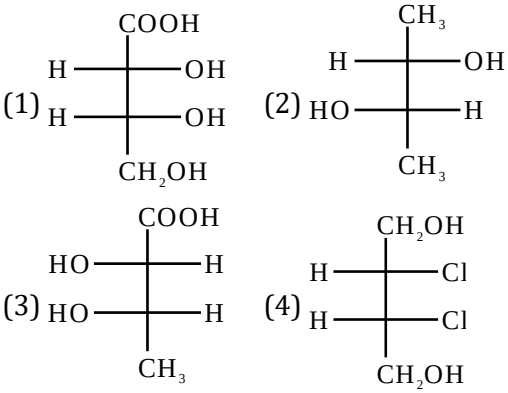
 (I)

 (II)

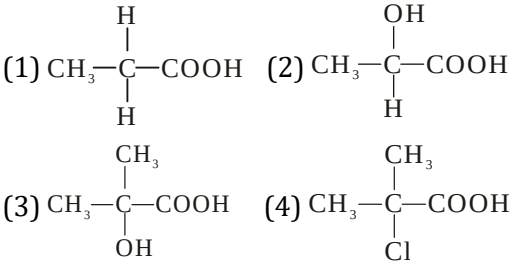
 (III)

It is true that :-
(1) All three are chiral compounds
(2) Only I and II are chiral compounds
(3) Only II is chiral compound
(4) Only I and III are chiral compounds

5. Which one of the following is a meso–compound.



6. Which compound is optical active –



EXERCISE-I (Conceptual Questions) ANSWER KEY

Question	1	2	3	4	5	6
Answer	**2**	**1**	**3**	**2**	**4**	**2**

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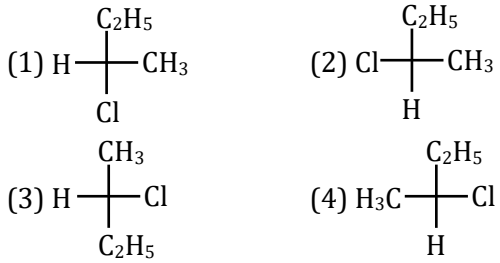
Exercise - II (Previous Year Questions) AIPMT/NEET

AIPMT-2006

1. Which of the following is not chiral :-
(1) 2–Butanol
(2) 2, 3–Dibromo pentane
(3) 3–Bromo pentane
(4) 2–Hydroxy propanoic acid

AIPMT-2007

2. $CH_3—CHCl—CH_2—CH_3$ has a chiral centre which one of the following represents its R configuration



AIPMT-2008

3. How many stereoisomer does this molecule have $CH_3CH=CHCH_2CHBrCH_3$
(1) 8 (2) 2
(3) 4 (4) 6

AIPMT Pre.-2012

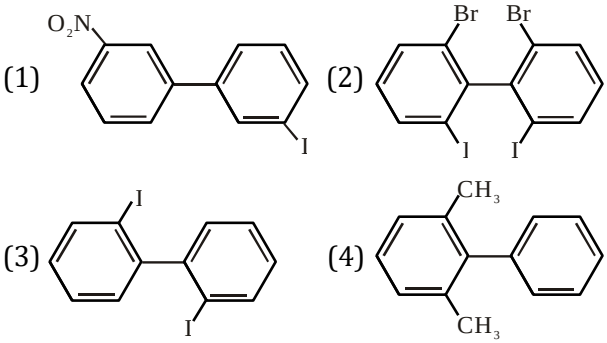
4. Which of the following acids does not exhibit optical isomerism?
(1) Lactic acid (2) Tartaric acid
(3) Maleic acid (4) α-amino acids

Re-AIPMT-2015

5. Two possible stereo-structures of $CH_3CHOHCOOH$, which are optically active, are called :-
(1) Enantiomers
(2) Mesomers
(3) Diastereomers
(4) Atropisomers

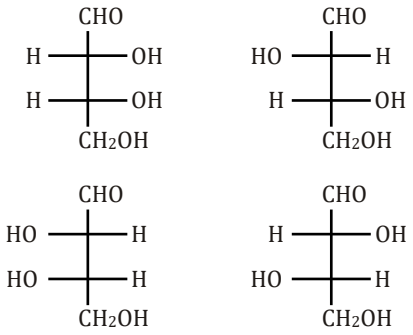
NEET-I 2016

6. Which of the following biphenyls is optically active?



NEET-II 2016

7. The **correct** corresponding order names of four aldoses with configuration given below



respectively, is :-
(1) L-erythrose, L-threose, D-erythrose, D-threose
(2) D-erythrose, D-threose, L-erythrose, L-threose
(3) L-erythrose, L-threose, L-erythrose, D-threose
(4) D-threose, D-erythrose, L-threose, L-erythrose

EXERCISE-II (Previous Year Questions) ANSWER KEY

Question	1	2	3	4	5	6	7
Answer	**3**	**2**	**3**	**3**	**1**	**2**	**2**

TG: @Chalnaayaaar

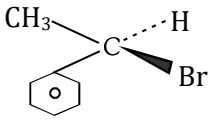
Exercise – III (Analytical Questions) Master Your Understanding

1. Which of the following does not contain any asymmetric carbon but can show enantiomerism:-

(1) Lactic acid (2) 1,3-pentadiene

(3) Tartaric acid (4) 2,3-pentadiene

2. The complete IUPAC name of the compound:-



(1) (R)-1-Bromo-1-phenyl ethane

(2) (S)-1-Bromo-1-phenyl ethane

(3) (E)-1-Bromo-1-phenyl ethane

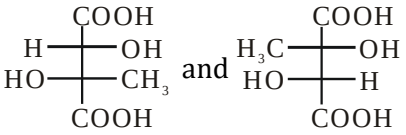
(4) (Z)-1-Bromo-1-phenyl ethane

3. The total number of configurational isomers of the given compound are :-

$CH_3–CH=CHCHOHCHOHCH_3$

(1) 2 (2) 4

(3) 6 (4) 8

4.  are :-

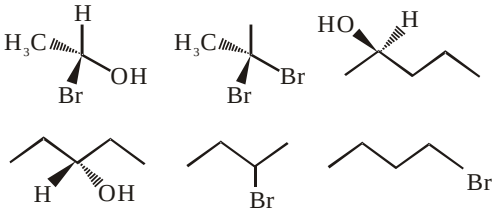
(1) Enantiomers

(2) Position isomers

(3) Geometrical isomers

(4) Homomers

5. How many compounds among the following are chiral ?



(1) 1 (2) 2

(3) 3 (4) 4

EXERCISE-III (Analytical Questions) ANSWER KEY

Question	1	2	3	4	5
Answer	**4**	**1**	**4**	**4**	**3**